UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/540,878	03/31/2000	Koichi Kuroiwa	P108390-00002	1786

			EXAMINER

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EXAMINER
HSU, ALPUS

ART UNIT	PAPER NUMBER
2665	

DATE MAILED: 01/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

		Application No.	Applicant(s)
Office Action Summary		09/540,878	KUROIWA ET AL.
		Examiner	Art Unit
		Alpus H. Hsu	2665

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>18 August 2004</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>2-8,10-19,21,22,24-27,29,31-40,43,44 and 52-61</u> is/are pending in the application.

    4a) Of the above claim(s) <u>52</u> is/are withdrawn from consideration.

5)☒ Claim(s) <u>24-27,29,43,44,56,57,60 and 61</u> is/are allowed.

6)☒ Claim(s) <u>2,3,7,10,11,13,14,16-18,21,22,31-33,35-39,53-55,58 and 59</u> is/are rejected.

7)☒ Claim(s) <u>4-6,8,12,15,19,34 and 40</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date <u>6/9, 8/2, 10/26/04</u>.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____ .

1.   In order to expedite the prosecution of the instant application, the applicant is requested

to cancel the non-elected claim 52 in the next response.

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

3.   This application currently names joint inventors. In considering patentability of the

claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

claims was commonly owned at the time any inventions covered therein were made absent any

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c)

and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4.   Claims 2, 3, 7, 10, 11, 14, 16, 18, 21, 22, 31, 32, 35-38, 53-55, 58 and 59 are rejected

under 35 U.S.C. 103(a) as being unpatentable over Higuchi et al. in U.S. Patent No. 6,167,037

(of record) in view of Yanagi in U.S. Patent No. 6,345,045 (newly cited).

      Referring to claim 53, Higuchi et al. disclose a cell search method comprising the steps

of: detecting correlation values (maximum correlation values) between an input signal and a

spreading code (see column 11, lines 31-37); comparing each of said detected correlation values

with a threshold value (see column 11, lines 49-62); and detecting a correlation peak value in a

predetermined unit of slots in accordance with a result of said comparison (see column 11, lines 45-48).

Higuchi et al. differ from the claim, in that it does not disclose the step of selecting and storing only the correlation value which exceeds the threshold value, which is well known in the art and commonly applied in communications field for reducing memory space.

Yanagi, for example, from the similar field of endeavor, teaches the reduction of memory space by selecting and storing only the correlation value which exceeds the threshold value (see column 4, lines 4-16, column 5, lines 11-20, 26-34), which can be easily adopted by one of ordinary skill in the art to implement into the method of Higuchi et al. for power consumption reduction purpose.

Referring to claim 2, Higuchi et al. disclose that a correlation value exceeding said threshold value is stored in a memory (see column 11, lines 46-48).

Referring to claim 3, Higuchi et al. disclose that timing data on the timing at which said correlation value exceeds said threshold value is stored in memory (see column 11, lines 46-48).

Referring to claim 7, Higuchi et al. disclose that said threshold value can be arbitrarily set (see column 5, lines 20-23).

Referring to claim 54, Higuchi et al. disclose a communication synchronization apparatus comprising: a detection device that detects correlation values between an input signal and a spreading code generated by the detection device (see column 11, lines 30-48), and detects a correlation peak value in a predetermined unit of slots to detect a synchronization point of said input signal (see column 11, lines 46-48), and a comparison section for comparing each of the detected correlation values with a predetermined threshold value (see Figure 9).

Higuchi et al. differ from the claim, in that it does not disclose the step of selecting and storing only the correlation value which exceeds the threshold value, which is well known in the art and commonly applied in communications field for reducing memory space.

Yanagi, for example, from the similar field of endeavor, teaches the reduction of memory space by selecting and storing only the correlation value which exceeds the threshold value (see column 4, lines 4-16, column 5, lines 11-20, 26-34), which can be easily adopted by one of ordinary skill in the art to implement into the method of Higuchi et al. for power consumption reduction purpose.

Referring to claim 10, Higuchi et al. disclose a first storage section for storing a correlation value exceeding said threshold value, obtained as a result of comparison by said comparison section (see column 11, lines 46-48 and see Fig. 9, #S2200).

Referring to claim 11, Higuchi et al. disclose a second storage section for storing timing data on the timing at which said correlation value exceeds the threshold value (see column 11, lines 46-48 and see Fig. 9, #S2200 and note that the information stored in memory contains timing information).

Referring to claim 14, disclose a register for arbitrarily setting said threshold value (see column 5, lines 20-23).

Referring to claim 16, Higuchi et al. disclose an end notification section for notifying the completion of the detection process for said correlation peak value when the detection process is completed (see column 5, lines 14-19).

Referring to claim 18, Higuchi et al. disclose a registration count notification section for notifying the number of correlation values stored in said first storage section (see column 11, lines 65-67 and column 12, lines 1-6).

Referring to claim 55, Higuchi et al. disclose a computer-readable storage medium for a communication synchronization apparatus comprising: a detection device that detects correlation values between an input signal and a spreading code generated by the detection device (see column 11, lines 30-48), and detects a correlation peak value in a predetermined unit of slots to detect a synchronization point of said input signal (see column 11, lines 46-48), said medium storing a program for causing a computer to realize a comparison function of comparing each of the detected correlation values with a predetermined threshold value (see column 11, lines 31-62 and Figure 9).

Higuchi et al. differ from the claim, in that it does not disclose the function of selecting and storing only the correlation value which exceeds the threshold value, which is well known in the art and commonly applied in communications field for reducing memory space.

Yanagi, for example, from the similar field of endeavor, teaches the reduction of memory space by selecting and storing only the correlation value which exceeds the threshold value (see column 4, lines 4-16, column 5, lines 11-20, 26-34), which can be easily adopted by one of ordinary skill in the art to implement into the method of Higuchi et al. for power consumption reduction purpose.

Referring to claim 21, Higuchi et al. disclose a program for causing said computer to realize a control function of controlling to store a correlation value exceeding said threshold

value, obtained as a result of comparison by said comparison function, in a memory (see column 11, lines 30-62).

Referring to claim 22, Higuchi et al. disclose a program for causing said computer to realize a control function of controlling to store timing data on the timing at which said correlation value exceeds said threshold value, in a memory (see column 11, lines 30-62).

Referring to claim 58, Higuchi et al. disclose a communication synchronization apparatus comprising: a detection device that detects each slot in a predetermined unit, a correlation value between an input signal and a spreading code generated by the detection device, the detection process for correlation value is performed over several slots, the correlation values obtained in the slots are integrated to detect a correlation peak value, and thereby a synchronization point of said input signal is detected; and a comparison section for comparing each of a calculated integrated correlation value with a reference set value (see column 11, lines 30-62 and Figure 9).

Higuchi et al. differ from the claim, in that it does not disclose the function of selecting and storing only the correlation value which exceeds the threshold value, which is well known in the art and commonly applied in communications field for reducing memory space.

Yanagi, for example, from the similar field of endeavor, teaches the reduction of memory space by selecting and storing only the correlation value which exceeds the threshold value (see column 4, lines 4-16, column 5, lines 11-20, 26-34), which can be easily adopted by one of ordinary skill in the art to implement into the method of Higuchi et al. for power consumption reduction purpose.

Referring to claim 31, Higuchi et al. disclose a count section for counting the number of paths at which an integrated correlation value has reached said reference set value, obtained as a

result of comparison by said comparison section (see column 11, lines 30-62 and note that the

apparatus of Higuchi et al. determines the number of paths to be either 1 (when the threshold is

exceeded and the value selected) or 0 (if the threshold is not exceeded)).

Referring to claim 32, Higuchi et al. disclose that integration is ended when the count by

said count section reaches a path count set value (the total number of long codes in the system,

see column 11, lines 30-62).

Referring to claim 35, Higuchi et al. disclose that comparison by said comparison section

is performed on the basis of power values (see column 19, lines 63-67 and column 20, lines 1-4).

Referring to claim 36, all operations performed by computers are performed on the basis

of voltage values; therefore performing a comparison check on the basis of voltage values is

inherent in a system such as that of Higuchi et al.

Referring to claim 37, Higuchi et al. disclose that said comparison section compares an

integrated correlation value output from an adder for performing integration, with said reference

set value (see Fig. 5, #13).

Referring to claim 38, Higuchi et al. disclose that said comparison section compares an

integrated correlation value output from a memory for storing calculated integrated correlation

values, with said reference set value (see column 11, lines 30-62).

Referring to claim 59, Higuchi et al. disclose a communication synchronization apparatus

comprising: a detection device that detects each slot in a predetermined unit, correlation values

between an input signal and a spreading code generated by the detection device, the detection

process for correlation value is performed over several slots, the correlation values obtained in

the slots are integrated to detect a peak correlation value, and thereby a synchronization point of

said input signal is detected; and a comparison section for comparing each of the detected

correlation value or each of a value output from a power conversion device for converting the

correlation value into a power value, with a reference set value (see column 11, lines 30-62 and

see Figure 9).

Higuchi et al. differ from the claim, in that it does not disclose the function of selecting

and storing only the correlation value which exceeds the threshold value, which is well known in

the art and commonly applied in communications field for reducing memory space.

Yanagi, for example, from the similar field of endeavor, teaches the reduction of memory

space by selecting and storing only the correlation value which exceeds the threshold value (see

column 4, lines 4-16, column 5, lines 11-20, 26-34), which can be easily adopted by one of

ordinary skill in the art to implement into the method of Higuchi et al. for power consumption

reduction purpose.

5.   Claims 13, 33 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Higuchi et al. in U.S. Patent No. 6,167,037 (of record) in view of Yanagi in U.S. Patent No.

6,345,045 (newly cited) as applied to claims 10, 11, 31, 32, 54 and 58 above, and further in view

of Shibata et al. in U.S. Patent No. 6,115,725 (of record).

Referring to claim 13, the apparatus provided from the teaching of Higuchi et al. in view

of Yanagi differ from claim 13 in that they fail to disclose that said first and second storage

sections are provided in a single memory. However, it is old and well known in the art to store

more than one value in the same memory. For example, Shibata et al. teach storing a plurality of

values in a single memory (see column 5, lines 37-49), which has the advantage of reducing cost.

One skilled in the art would have recognized the advantage of storing a plurality of values in a

single memory as taught by Shibata et al. Therefore, it would have been obvious to a person

with ordinary skill in the art at the time of the invention to incorporate storing a plurality of

values in a single memory as taught by Shibata et al. into the invention of Higuchi et al. to

achieve the advantage of reducing cost.

Referring to claim 33, the apparatus provided from the teaching of Higuchi et al. in view

of Yanagi differ from claim 33 in that they fail to disclose a register for arbitrarily setting said

reference set value. However, the use of registers for storing values in such a system is old and

well known in the art. For example, Shibata et al. disclose the use of registers for storing values,

which has the advantage of providing a means of quickly accessing the reference set value. One

skilled in the art would have recognized the advantage of using a register to store a reference set

value as taught by Shibata et al. Therefore, it would have been obvious to a person with ordinary

skill in the art at the time of the invention to incorporate the use of a register for storing a

reference set value as taught by Shibata et al. into the invention of Higuchi et al. to achieve the

advantage of providing a means of quickly accessing the reference set value.

Referring to claim 39, the apparatus provided from the teaching of Higuchi et al. in view

of Yanagi differ from claim 39 in that they fail to disclose a register for arbitrarily setting said

reference set value. However, the use of registers for storing values in such a system is old and

well known in the art. For example, Shibata et al. disclose the use of registers for storing values,

which has the advantage of providing a means of quickly accessing the reference set value. One

skilled in the art would have recognized the advantage of using a register to store a reference set

value as taught by Shibata et al. Therefore, it would have been obvious to a person with ordinary

skill in the art at the time of the invention to incorporate the use of a register for storing a

reference set value as taught by Shibata et al. into the invention of Higuchi et al. to achieve the advantage of providing a means of quickly accessing the reference set value.

6.   Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Higuchi et al. in U.S. Patent No. 6,167,037 (of record) in view of Yanagi in U.S. Patent No. 6,345,045 (newly cited) as applied to claims 10, 11 and 54 above, and further in view of Wilson in U.S. Patent No. 3,680,055 (of record).

Referring to claim 17, the apparatus provided from the teaching of Higuchi et al. in view of Yanagi differ from claim 17 in that they fail to disclose an overflow notification section for notifying a shortage of storage area in at least one of said first and second storage sections when it occurs. However, overflow notification mechanisms are well known in the memory art. For example, Wilson discloses the use of an overflow notification mechanism (see column 5, lines 54-69), which has the advantage of preventing data loss. One skilled in the art would have recognized the advantage of an overflow notification mechanism as taught by Wilson. Therefore, it would have been obvious to a person with ordinary skill in the art at the time of the invention to incorporate an overflow notification mechanism as taught by Wilson into the invention of Higuchi et al. to achieve the advantage of preventing data loss.

7.   Claims 24-27, 29, 43, 44, 56, 57, 60 and 61 are allowed.

8.   Claims 4-6, 8, 12, 15, 19, 34 and 40 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Haartsen, Naruse '809 & '370, Sourour et al. and Takagi et al. are further cited to show

the feature of synchronizing acquisition for code modulated communication system utilizing

correlators and comparison of correlation values to threshold value similar to the claimed

invention.

10.   Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

11.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Alpus H. Hsu whose telephone number is (571)272-3146. The

examiner can normally be reached on M-F (5:30-3:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Huy D. Vu can be reached on (571)272-3155. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AHH   Alpus H. Hsu
                                                        Primary Examiner
                                                        Art Unit 2665